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#10

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
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EXAMINER

LM02/1221

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MEI, X

ART UNIT

PAPER NUMBER

2747

18

DATE MAILED: 12/21/99

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☒ Responsive to communication(s) filed on 11/01/1999
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) (1-27) is/are pending in the application.
- ☐ Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) (1-27) is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☐ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

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1. This communication is responsive to the applicant's response dated 11/01/1999.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami et al. (US Pat. 5,555,310, hereinafter, Minami) in view of Suzuki et al. (US Pat. 5,440,639, hereinafter, Suzuki) or Cooper et al. (US Pat. 4,910,799, hereafter, Cooper) or Tanaka et al. (US Pat. 5,598,478, hereinafter, Tanaka).

Regarding claims 1, 3, 5-7, 9, 12, 15, 18, and 24, Minami teaches a two-way communication system or conference system which provide virtual audio or stereo voice transmission for the listener at each end or terminal or station. Minami's system including left and right spatially disposed microphones at a conference station and left and right spatially disposed loudspeakers connected to a communication channel in a remote station (see Fig. 3 for example). The transfer function imparted

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in Minami may not be disclosed as head-related (HRTF's) transfer function, each of the secondary reference of Suzuki or Cooper or Tanaka teaches the head related features or functions (see for example Fig. 1B of Cooper or Figs. 17, 19 of Tanaka) for used in audio signal processing such as derived delays for off-axis sounds, acoustic filtering effects of the pinna, etc. to improve sound localization. Although each of the secondary reference is individually oriented, it would have been obvious to one of ordinary skill in the art to utilize the HRTF as taught by the secondary references of Suzuki and Cooper for the conference system taught by Minami in order to improve sound localization.

Regarding claims 2, 4, 16-17 and 25-26 see Fig. 3-5 of Minami.

Regarding claim 8, each of the secondary reference of Suzuki or Cooper or Tanaka shows the different positions measurement of the audio signal relating to the dummy head. It would have been obvious for one of ordinary skill in the art to used a head-tracking sensor and a position simulator for accurate HRTF measurement of the audio signal related to the dummy head.

Regarding claims 10-11, optimal positioning of the video camera and display would have been obvious to one of ordinary skill in the art in order to provide conferees with the best video signal caption and display.

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4. Method claims 13-14, 19-23 and 27 are rejected for the same reasoning as set forth for the rejection of various apparatus claims 1-12, 15-18 and 24-26 since the apparatus claims perform the same functions as the method claims.

5. Applicant's arguments filed 04/09/1999 (and substantially the same argument presented in the remark dated 09/22/1999) have been fully considered but they are not persuasive.

Applicant's argument mainly concerning there is no motivation to modify the Minami reference or to combine the teachings of the cited references. The examiner disagrees. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation of combining Minami and Tanaka or Suzuki or Cooper which including L-R HRTF signal for improve sound localization would have been obvious. And the HRTR of Tanaka or Suzuki or Cooper would have "impart" spatial components on the voice signal.

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In response to applicant's arguments against the references individually, i.e., only referring to the Minami reference, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

6. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.129(a) and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.129(a). Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the submission under 37 CFR 1.129(a). See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the

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statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications; please mark
"EXPEDITED PROCEDURE")

Or:

(703) 305-9508 (for informal or draft communications, please
label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is (703) 308-6610.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Xm
xm

12/09/1999



VIVIAN CHANG
PRIMARY EXAMINER